

CLAIMS

1. A stapler comprising:
 - a staple feeding mechanism that feeds staple blanks in a staple feed direction; and
 - 5 a staple former assembly that is movable in the staple feed direction between a first position for forming staples having a first crown size and a second position for forming staples having a second crown size.
- 10 2. The stapler of claim 1, wherein the staple former assembly includes a first former having a first forming surface for forming staples having the first crown size; and a second former having a second forming surface for forming staples having the second crown size.
- 15 3. The stapler of claim 2, wherein the first forming surface includes a pair of first forming surfaces that are spaced apart by a distance substantially equal to the first crown size.
- 20 4. The stapler of claim 2, wherein the second forming surface includes a pair of second forming surfaces that are spaced apart by a distance substantially equal to the second crown size.
- 25 5. The stapler of claim 2, wherein the second forming surface includes a pair of spaced-apart second forming surfaces, and wherein the first forming surface is between the spaced-apart second forming surfaces.
- 30 6. The stapler of claim 2, wherein the first former is coupled to an eccentric assembly, and wherein rotation of the eccentric assembly moves the first former in the staple feed direction to adjust the staple former assembly between the first and second positions.
7. The stapler of claim 6, wherein the eccentric assembly automatically adjusts the staple former assembly between the first and second positions in response to sensing a thickness of an item to be stapled.

8. A stapler comprising:
a staple feeding mechanism that feeds staple blanks in a staple feed
direction; and
a staple former assembly for bending the staple blanks into staples having a
5 first crown size and a second crown size, the staple former assembly including
a first portion having a pair of first forming surfaces spaced apart a
first distance for forming staples having the first crown size; and
a second portion having a pair of second forming surfaces spaced
apart a second distance for forming staples having the second crown size.

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9. The stapler of claim 8, wherein the first portion is disposed at least partially
between the second forming surfaces.

10. The stapler of claim 8, wherein the first portion has a first position with
15 respect to the second portion for forming staples having the first crown size, and a second
position with respect to the second portion for forming staples having the second crown
size.

11. The stapler of claim 10, wherein when the first portion is in the first
20 position, the first forming surfaces lie in substantially the same plane as the second
forming surfaces.

12. The stapler of claim 10, wherein the staple former assembly moves in a
staple forming direction to bend the staple blanks into staples, and wherein when the first
25 portion is in the second position, the first forming surfaces are shifted out of a plane
containing the second forming surfaces in a direction that is substantially normal to the
staple forming direction.

13. The stapler of claim 10, wherein the staple former assembly moves in a
30 staple forming direction to bend the staple blanks into staples, and wherein when the first
portion is in the second position, the first forming surfaces are shifted away from the
second forming surfaces in a direction that is substantially parallel to the staple forming
direction.

14. The stapler of claim 8, wherein the staple former assembly includes a first configuration for forming staples having the first crown size and a second configuration for forming staples having the second crown size.

5 15. The stapler of claim 14, wherein when the staple former assembly is in the first configuration, the first and second portions are coupled together for movement in a forming direction to form a staple having the first crown size, and wherein when the staple former assembly is in the second configuration, the second portion moves in the forming direction independently of the first portion to form a staple having the second crown size.

16. A stapler comprising:
a staple feeding mechanism that feeds staple blanks in a staple feed
direction; and
a staple former assembly for bending the staple blanks into staples having a
5 first crown size and a second crown size, the staple former assembly including
a first former configured to form staples having the first crown size
and configured to drive staples having the second crown size toward a stapling
area; and
a second former configured to form staples having the second crown
10 size.

17. The stapler of claim 16, wherein the first former defines a pair of first
forming surfaces that are spaced apart by a first distance that is substantially equal to the
first crown size.

15 18. The stapler of claim 17, wherein the second former defines a pair of second
forming surfaces that are spaced apart by a second distance that is substantially equal to
the second crown size.

20 19. The stapler of claim 18, wherein the first former is disposed at least
partially between the second forming surfaces.

25 20. The stapler of claim 18, wherein the first and second formers move in a
forming direction to form the staples, and wherein when the second former forms staples
having the second crown width, the first forming surfaces are spaced from the second
forming surfaces in a direction that is substantially parallel to the forming direction.

30 21. The stapler of claim 20, wherein the first former moves in a driving
direction to drive staples having the second crown width, and wherein the driving direction
is the same as the forming direction.

22. The stapler of claim 16, wherein the first and second formers are coupled for movement together in a forming direction to form staples having the first crown size, and wherein the second former moves independently of the first former in the forming direction to form staples having the second crown size.

23. A stapler comprising:
a staple feeding mechanism that feeds staple blanks in a staple feed
direction;
5 a staple former assembly configured to form staple blanks into staples; and
a bend plate assembly that supports staple blanks and that is movable in the
staple feed direction between a first position for forming staples having a first crown size
and a second position for forming staples having a second crown size.

24. The stapler of claim 23, wherein the bend plate assembly includes
10 a first portion defining a first bending surface for supporting staple blanks
that are to be formed into staples having the first crown size; and
a second portion defining a second bending surface for supporting staple
blanks that are to be formed into staples having the second crown size.

15 25. The stapler of claim 24, wherein at least one of the first and second portions
is movable in the staple feed direction to adjust the bend plate assembly between the first
and second positions.

26. The stapler of claim 24, wherein the first and second portions move
20 independently of one another.

27. The stapler of claim 24, wherein at least one of the first and second portions
moves substantially linearly.

25 28. The stapler of claim 24, wherein the second bending surface includes a pair
of spaced-apart second bending surfaces, and wherein the first bending surface is disposed
between the second bending surfaces.

30 29. The stapler of claim 28, wherein when the bend plate assembly is in the
first position, the first bending surface is spaced from the second bending surfaces in a
direction that is substantially parallel to the staple feed direction, and wherein when the
assembly is in the second position, the first bending surface and the second bending
surfaces are substantially aligned.

30. The stapler of claim 23, wherein the staple blank is bent about the bend plate assembly in a forming direction that is substantially perpendicular to the staple feed direction.

31. A stapler comprising:
a staple feeding mechanism that feeds staple blanks in a staple feed
direction; and
5 a staple former assembly configured to form staple blanks into staples; and
a bend plate assembly that supports staple blanks for forming staples having
a first crown size and a second crown size, the bend plate assembly including
a first portion defining a first bending surface having a first width
for forming staples having the first crown size; and
10 a second portion defining a second bending surface having a second
width for forming staples having the second crown size.

32. The stapler of claim 31, wherein at least one of the first and second portions
move to adjust the bend plate assembly between a first position for forming staples having
the first crown size, and a second position for forming staples having the second crown
15 size.

33. The stapler of claim 32, wherein the first and second portions move
independently of one another.

20 34. The stapler of claim 32, wherein the staple blank is bent about the bend
plate assembly in a forming direction, and wherein at least one of the first and second
portions move in a direction that is substantially perpendicular to the forming direction to
adjust the bend plate assembly between the first and second positions.

25 35. The stapler of claim 31, wherein the second bending surface includes a pair
of spaced apart second bending surfaces, and wherein the first bending surface is disposed
between the second bending surfaces.

30 36. The stapler of claim 31, wherein the first and second bending surfaces are
substantially co-planar.

37. A stapler comprising:

a staple driver assembly for driving staples, the staple driver assembly being movable between a first configuration for driving staples having a first crown width and a second configuration for driving staples having a second crown width.

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38. The stapler of claim 37, wherein the staple driver assembly includes a first driving member defining a first driving surface for driving staples having the first crown width; and

10 a second driving member defining a second driving surface for driving staples having the second crown width.

39. The stapler of claim 38, wherein the second driving member has a first position relative to the first driving member when the driver assembly is configured for driving staples having the first crown width and a second position relative to the first driving member when the driver assembly is configured for driving staples having the second crown width.

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40. The stapler of claim 39, wherein the driving members move in a driving direction to drive staples toward a stapling area, and wherein when the second driving member is in the first position, the first and second driving surfaces are spaced from one another in a direction that is substantially parallel to the driving direction.

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41. The staple of claim 39, wherein when the second driving member is in the second position, the first and second driving surfaces are substantially aligned.

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42. The stapler of claim 38, wherein the second driving surface includes a pair of spaced apart second driving surfaces, and wherein the first driving member is disposed at least partially between the second driving surfaces.

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43. The stapler of claim 38, wherein the first crown width is smaller than the second crown width, and wherein staples having the first crown width are driven only by the first driving member, and wherein staples having the second crown width are driven by the first and second driving members.

44. The stapler of claim 38, wherein the first driving member moves independently to drive staples having the first crown width, and wherein the first and second driving members move together to drive staples having the second crown width.

45. A stapler comprising:

a staple driver assembly for driving staples having a first crown width and a second crown width into an item to be stapled, the staple driver assembly including a driver having a driving surface for movement in a driving direction to drive staples into the item, the driving surface having a first driving width in a first configuration of the driver assembly for driving staples having the first crown width, and a second driving width in a second configuration of the driver assembly for driving staples having the second crown width.

10 46. The stapler of claim 45, wherein the driver includes a first driving member defining a first driving surface having a width corresponding to the first crown width, and a second driving member at least partially defining a second driving surface having a width corresponding to the second crown width.

15 47. The stapler of claim 46, wherein the second driving surface includes a spaced apart pair of second driving surfaces, and wherein the first driving surface is disposed between the pair of second driving surfaces.

20 48. The stapler of claim 46, wherein the first crown width is smaller than the second crown width, wherein staples having the first crown width are driven only by the first driving member, and wherein staples having the second crown width are driven by the first and second driving members.

25 49. The stapler of claim 46, wherein the first driving member moves independently to drive staples having the first crown width, and wherein the first and second driving members move together to drive staples having the second crown width.